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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,356	01/22/2002	Ian D. French	GB010015	9287

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EXAMINER

NGUYEN, THANH T

ART UNIT PAPER NUMBER

2813

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,356

Applicant(s)

FRENCH ET AL.

Examiner

Thanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (JP application No. 6-148661) in view of Shimada et al. (U.S. Patent No. 6,128,060) or Moshrefzadeh (U.S. Patent No. 6,037,005).

Referring to figures 1-2, **Hiroshi et al.** teaches a method of improving electrical conductivity of lines of transparent conducting material carried on a substrate, comprising:

Forming the lines of transparent conducting material (ITO, 2/9) on the substrate (1/8),

Providing on the upper surface of each of the lines a covering layer (3/10, see figures 1a/2a) extending from an end part of the line and partially covering the upper surface of the line (see figures 1b/2b), and

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Subjecting the lines to a metal electroplating process (11, 12, see figures 1-2, paragraph #29 of the detailed description) in which plating potential applied to each line at the end part whereby a metal layer is plated on the exposed surface area of the line, the covering layer serving to shield the underlying surface of the line during the plating.

However, the reference does not teach the shape of the covering layer, the source and drains areas, pixel electrodes, and conductor lines.

The shaped of the covering layer are obvious since apparatus limitations, unless they affect the process in a manipulative sense, may have little weight in process claims. *In re Tarczy-Hornoch* 158 USPQ 141, 150 (CCPA 1968); *In re Edwards* 128 USPQ 387 (CCPA 1961); *Stalego v. Heymes* 120 USPQ 473, 478 (CCPA 1959); *Ex parte Hart* 117 USPQ 193 (PO BdPatApp 1957); *In re Freeman* 44 USPQ 116 (CCPA 1940); *In re Sweeney* 72 USPQ 501 (CCPA 1947).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would formed any shaped of the covering layer as desire in process of **Hiroshi et al.** because the process is known in the art.

Shimada et al. teaches the source area (505), the drain areas (506), pixel electrodes (511), and conductor lines (525).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form the source area (505), the drain areas (506), pixel electrodes (511), and conductor lines (525) in process of Hiroshi et al. as taught by Shimada et al. or Moshrefzadeh because the process would provide a liquid crystal display device having a sufficiently small deviation among threshold characteristics of thin film transistor.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimkunas (U.S. Patent No. 4,696,878) or Moshrefzadeh (U.S. Patent No. 6,037,005) in view of Shimada et al. (U.S. Patent No. 6,128,060).

Referring to figures 4a-4g, Shimkunas teaches a method of improving electrical conductivity of lines of transparent conducting material carried on a substrate, comprising:

Forming the lines of transparent conducting material (ITO, 104) on the substrate,

Providing on the upper surface of each of the lines a covering layer (106) extending from an end part of the line and partially covering the upper surface of the line, and

Subjecting the lines to a metal electroplating process (116, see figure 4f, col. 5, lines 15-22) in which plating potential applied to each line at the end part whereby a metal layer is plated on the exposed surface area of the line, the covering layer serving to shield the underlying surface of the line during the plating.

Referring to figures 1a-1e, Moshrefzadeh teaches a method of improving electrical conductivity of lines of transparent conducting material carried on a substrate, comprising:

Forming the lines of transparent conducting material (ITO, 22) on the substrate,

Providing on the upper surface of each of the lines a covering layer (24) extending from an end part of the line and partially covering the upper surface of the line, and

Subjecting the lines to a metal electroplating process (26, see figure 1c and related text) in which plating potential applied to each line at the end part whereby a metal layer is plated on the exposed surface area of the line, the covering layer serving to shield the underlying surface of the line during the plating.

However, the reference does not teach the shape of the covering layer, the source and drains areas, pixel electrodes, and conductor lines.

The shaped of the covering layer are obvious since apparatus limitations, unless they affect the process in a manipulative sense, may have little weight in process claims. *In re Tarczy-Hornoch* 158 USPQ 141, 150 (CCPA 1968); *In re Edwards* 128 USPQ 387 (CCPA 1961); *Stalego v. Heymes* 120 USPQ 473, 478 (CCPA 1959); *Ex parte Hart* 117 USPQ 193 (PO BdPatApp 1957); *In re Freeman* 44 USPQ 116 (CCPA 1940); *In re Sweeney* 72 USPQ 501 (CCPA 1947).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would formed any shaped of the covering layer as desire in process of Shimkunas because the process is known in the art.

Shimada et al. teaches the source area (505), the drain areas (506), pixel electrodes (511), and conductor lines (525).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form the source area (505), the drain areas (506), pixel electrodes (511), and conductor lines (525) in process of Shimkunas as taught by Shimada et al. because the process would provide a liquid crystal display device having a sufficiently small deviation among threshold characteristics of thin film transistor.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,498,087. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the present invention and the patent are claimed a method of depositing a transparent conductive layer over the substrate, depositing a photoresist layer (covering layer) over the conductive layer, depositing a metal layer by electroplating process.

Claims 1-20 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/265877. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the present invention and the provisional application are claimed a method of depositing a transparent conductive layer over the substrate, depositing a photoresist layer (covering layer) over the conductive layer, depositing a metal layer by electroplating process.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed 6/13/03 have been fully considered but they are not persuasive.

Applicant contend that the reference does not teach a covering layer extending from an end part of the line, and plating applied each line at the end part. In response to applicant that covering layer extending from an end part of the line layer (3/10, see figures 1a/2a), and plating applied each line at the end part (11, 12, see figures 1-2, paragraph #29 of the detailed description).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (703) 308-9439, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday 6:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (703) 308-4940. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).



Thanh Nguyen
Patent Examiner